

Abstract

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The purpose of this investigation was to evaluate the relationship between level of competition and competitive sport anxiety in youth recreational soccer players.

Multidimensional Anxiety Theory served as the conceptual framework for this study.

Participants consisted of 76 youth athletes' ranging from ages 10-15 who participated in two specific levels of youth soccer: recreational league (beginner) and classic league (advanced).

Both league participants completed the Competitive State Anxiety Inventory-2 approximately one hour before competing in game. ANOVA analyses were conducted for each of the competitive anxiety subscales (cognitive and somatic anxiety) and levels of competition. In addition, a univariate analysis was performed on the cognitive anxiety scores, with gender, age group, and soccer level as the fixed factors. Results revealed a significant difference in cognitive A-state anxiety for the classic league participants over the recreational league participants.

Univariate analysis results confirmed no significant effect from the interaction between level of competition and gender or level of competition and age for both anxiety subscales.

The Relationship between Level of Competition and Competitive Sport Anxiety
in Youth Recreational Soccer Players

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I: Overview of the Study

According to the Foundation of Sports and Exercise Psychology (Weinburg & Gould, 2007), approximately 45 million children from the United States participate yearly in organized recreational sports. Organized youth recreation is defined as a form of structured child's play set up by recreational programs and organizations to provide controlled opportunities and resources for athletics (Barnett, 2004). There are many benefits that children can gain from recreational sport participation. Some benefits include: fostering physically-active lifestyles that can positively increase growth and health (Katzmarzyk & Malina, 1998); promoting positive development and self-confidence; and encouraging social growth (Tofler & Butterbaugh, 2005). Recreational sports providers are charged with designing and maintaining appropriate environments that cultivate these positive outcomes.

Inherent to sport is competition, and in optimal sporting experiences the degree of competitiveness is often associated with a healthy and manageable level of eustress or anxiety (Csikszentmihalyi, 1991). Unfortunately, when athletes experience an unhealthy level of distress or anxiety in sports, it often results in poor performance that may negatively impact the overall experience. This may result in the withdrawal of sport participants (Humara, 1999). In order to minimize negative effects of distress, many recreational sports programs offer multiple levels of competition within youth sports. Competitive levels of youth recreational sport can be determined by factors such as overall physical skill and performance of the athlete in a sport. Accordingly, higher levels of competition may result in an increase in physical challenge as well as place more demands on an athlete's ability to perform. Linder, Johns, & Butcher (1991) indicated that burnout occurs when athletes feel that the demands in a sport are too much to

handle and cannot be met--causing them to experience anxiety within their performance. Competitive sport anxiety, which is found to be very common in young athletes (Wilson, 2008) is a pessimistic reaction that occurs when an individual doubts his or her ability to cope with stressful situations (Humara, 1999). Competitive sport anxiety hinders an athlete's ability to positively or normally react during sports participation, affecting their overall performance (Humara, 1999). According to Peden (2007), the amount of anxiety experienced can also affect an individual's overall level of self-confidence.

Multidimensional Anxiety Theory, developed by Martens, Burton, Vealey, Bump, and Smith (1990), focuses primarily on competitive sport anxiety. This theory describes competitive sport anxiety in a model composed of two main subcomponents: cognitive anxiety and somatic anxiety. Cognitive anxiety is defined as worry or an individual's negative thoughts or concerns about performance, as well as attention disruption and lack of concentration (Martens et al., 1990). Somatic anxiety can be identified as the psychological reaction symptoms that may occur in the individual which include excessive sweating, increased heart rate, shakiness, or tension (Martens et al., 1990). Multidimensional Anxiety Theory suggests that these two specific types of anxiety may be characteristics of competitive sport anxiety that can cause negative affects in an athlete's ability to focus or perform in an activity. Multidimensional Anxiety Theory served as the conceptual orientation of this study.

The purpose of this study was to examine the relationship between level of competition and competitive anxiety among youth recreational soccer participants ages 10-15. Findings may benefit recreational youth sports professionals by offering an understanding to what extent

competitive sports anxiety exists within recreational sports, and to what level of competition it is linked.

Problem Statement

Youth recreational sports can be enjoyable activities. Potentially, many youth sports are designed to provide excitement and fun for the child (Brady, 2004). Unfortunately, competing in higher levels of a sport may also involve greater levels of skill that may be too challenging and lead to heightened anxiety for some participants (Linder et al., 1991). According to Hardy (1996), anxiety can negatively influence an athlete's psychological and physical abilities to perform in a sport. Excessive pressure can lead to negative effects on the athlete's overall performance (Kanters, Boccaro, & Casper, 2008). For young athletes to be confident while participating in sports, it is important that they enjoy themselves. Anytime anxiety is heightened in sports, it can take away from the overall enjoyment and positive nature of an athlete's experience.

Purpose Statement

The purpose of this study was to examine the relationship between level of competition and competitive anxiety in youth recreational soccer players.

Research Question

Is there a relationship between level of competition and competitive anxiety in youth recreational soccer players?

Hypotheses

HO₁: There is no relationship between level of competition and cognitive A-anxiety in youth recreational soccer players.

HA₁: There is a relationship between level of competition and cognitive A-state anxiety in youth recreational soccer players.

HO₂: There is no relationship between level of competition and somatic A-anxiety in youth recreational soccer players.

HA₂: There is a relationship between level of competition and somatic A-state anxiety in youth recreational soccer players.

Delimitations

The data from this study was delimited to youth ages 10-15 who are participating in either a youth recreational level soccer league or a youth classic level soccer league located in Eastern North Carolina.

Limitations

The first limitation detected within this study resulted from the Competitive State Anxiety Inventory-2, which was initially designed and tested using an older study population of adolescents age 15 and older to test for reliability and validity. The use of a younger population group used in this study may have had an effect on the overall reliability and validity of the measurement. Another limitation was that no other independent variables beyond level of competition were included in this study. The researcher recognized that other variables may also explain competitive anxiety, but the intent of this study was to specifically investigate the relationship between level of competition and competitive sport anxiety.

Assumptions

The researcher assumed that all respondents answered the questionnaire honestly and that responses reflected their actions as accurately as possible. Furthermore, the researcher assumed

that the youth respondents understood and did not misinterpret competitive sport anxiety. To prevent misinterpretation, each term was defined and explained thoroughly to all participants before administering the questionnaire.

Definitions

- *Classic Level Soccer League*- a statewide soccer league which requires a strong level of commitment to the sport. All teams within the league travel within a 120 mile radius for competitions and are expected to practice 3 to 4 times a week with 1 to 2 games per weekend. Classic soccer league players also participate in annual soccer tournaments (Pitt-Greenville Soccer Association, 2003).
- *Cognitive A-State Anxiety*- a momentary anxiety state that consists of worry or an individual's negative thoughts or concerns about performance, as well as attention disruption and lack of concentration (Martens, Burton, Vealey, Bump, and Smith, 1990).
- *Competitive Sport Anxiety*- a pessimistic reaction that occurs when individuals (athletes) doubt their ability to cope with the situation that causes stress, and hinders their ability to positively or normally react or perform (Humara, 1999).
- *Distress*- the sustainable imbalance between environmental demand and response capabilities under conditions in which an athlete's failure to meet demands is perceived as having important consequences and is responded to with increased levels of cognitive and somatic A-state anxiety (Martens, Vealey, and Burton, 1990).
- *Eustress*- the optimal level of stress that an athlete can experience without having a negative effect to performance due to acquired stress (Selye, 1987).

- *Multidimensional Anxiety Theory*- A theory designed by Martens, Burton, Vealey, Bump, and Smith (1990), that focuses on competitive sport anxiety dividing it into two basic components: cognitive anxiety and somatic anxiety.
- *Somatic A-State Anxiety*- a momentary anxiety state that consists of a physical reaction that is brought on by increased tension usually found in competitive atmospheres resulting in stress and arousal which can cause an individual to react in a manner that can negatively affect performance (Smith, Smoll, Cumming, & Grossbard, 2006).
- *State Self-Confidence*- a momentary state of self-confidence that exemplifies the strength of one's assurance that a behavior can be successfully completed in order to produce a certain outcome (Martens et al., 1990). Self-confidence is characterized by accomplishment, belonging, and successfully achieving and accomplishing tasks (Tofler & Butterbaugh, 2005).
- *Youth Recreational Sports*- recreational sport programs and organizations that promote opportunities for youth/adolescents to engage in positive activities in safe environments, develop self-esteem, and foster healthy lifestyles (Hellstedt, 2005).
- *Recreational Level Soccer League*- a local league where all competitions require limited travel within Eastern North Carolina. Considered a beginner league for youth soccer players, the recreational level soccer league involves a small level of commitment and consists of 1-2 practices a week with 1 game scheduled for each weekend (Pitt-Greenville Soccer Association, 2003).

Chapter II: Literature Review

The purpose of this study was to examine the relationship between level of competition and competitive anxiety in youth recreational soccer players. This chapter provides an overview of the current literature pertaining to this study. A brief history of recreational youth sports and outcomes, and an overview of Multidimensional Anxiety Theory are presented.

History of Youth Sports

First organized in the early 20th century, youth sports have become an important part of contemporary society (Martens, 1978). Today, millions of children participate in sports activities. Recreational youth sports were first sponsored by local business agencies to provide leisure-time pursuits that would keep boys out of trouble (Seefeldt & Ewing, 1996). These techniques were soon adopted by schools that began supporting intramural sports programs to promote skill development and offer opportunities for involvement (Seefeldt & Ewing, 1996). As recreational youth sports began to expand, increased involvement created a need for structure and organization within the youth recreational sports industry (Martens, 1978).

Glenn “Pop” Warner formed the Pop Warner Football Organization (PWFO) in 1929, which was one of the earlier attempts to provide recreational youth sports (Engh, 1999). Approximately a decade later, Little League baseball was developed, providing new opportunities for fun and participation. Carl Stotz, “The Father of Little League Baseball,” designed a program that in the last 50 years has been a successful youth sports organization (Engh, 1999). Little League Baseball provided baseball and softball for boys and girls. It presently accounts for the largest organized recreational youth sports program in the world (Engh, 1999).

Organizations for youth sports continued to grow. The Young Men's Christian Association (YMCA) and the Young Women's Christian Association (YMCA) established in the early 1950's, served as social sports agencies, developing sports leagues, and providing physical environments for youth (Martens, 1978). The Boys and Girls Club, and Boy Scouts, and Girl Scouts were other organizations that promoted youth sports involvement. According to Carruthers & Brusser (2000), these clubs were the first to be recognized for establishing learning outcomes within their recreational sports programs. These providers based their programs on providing nurturing environments, developing positive behaviors, and increasing knowledge and self-esteem (Carruthers & Brusser, 2000).

According to the Foundations of Sports and Exercise Psychology (Weinburg & Gould, 2007), approximately 45 million children participate in youth sports each year in the United States. Many of the programs that founded some of the early organized youth sports are still in operation today. Pop Warner Football, Little League Baseball/Softball, and YMCA'S are prominent youth organizations that presently serve communities. Even today, organizations for youth sports involvement continue to grow, helping in providing hundreds of fun recreational opportunities for youth of all ages.

Benefits of Sport Participation

Researchers have studied the physical, social, and psychological benefits that recreational youth sports participation has on the development of children. According to Katzmarzyk and Malina (1998), involvement in sports contributes to growth throughout the lifespan by promoting physically active lifestyles in children. Youth recreational sports also provide positive, safe environments and reduce negative behavior in youth (Seefeldt & Ewing, 1996). In addition,

youth sports providers can contribute to the development of well-rounded, self-confident youth by providing an atmosphere for social growth and encouragement (Tofler & Butterbaugh, 2005).

According to Wickel and Eisenmann (2007), recreational youth sports provide an opportunity to increase total daily levels of moderate-to-vigorous physical activity (MVPA). Staying physically active is important for individuals to foster healthy lifestyles. Katzmarzyk and Malina (1998) compared the daily energy expenditure of 119 boys involved in youth sports and boys involved in typical physical education. The results indicated that youth sports participants utilized approximately 20% of their daily energy expenditure during youth sports as opposed to physical education (Katzmarzyk & Malina). Participation in youth sports can contribute to providing sufficient daily activity levels for children.

According to Seefeldt & Ewing (1996), recreational sports can be considered a setting for helping prevent negative behavior as well as decrease the level of violence and aggression in children. They argued that youth recreational sports provide a positive alternative from deviant behavior such as gang membership (Seefeldt & Ewing). Recreational sports often provide positive environments within which youth affiliate themselves. Fraser-Thomas and Cote (2005) conducted a study on the effect of youth sport programs in promoting positive development and decreasing problem behaviors in youth participants. They proposed that youth sport programs are designed to enhance positive behaviors in children and increase supportive child/parent relationships (Fraser-Thomas & Cote, & Deakin, 2005). Guidance and support from adults and family can provide children with role models for positive development (Fraser-Thomas et al., 2005).

While there are many benefits for youth in participating in youth recreational sports, often these environments can promote negative experiences, which can lead to an athlete's negative reactions or withdrawal from athletics. The following section focuses specifically on competitive anxiety and the processes that promote this psychological state.

Eustress vs. Distress

Stress can be a very prevalent concept in the nature of recreational sports and athletics. According to Santomier (1983), stress may be associated with the physiological, psychological, and social dimensions of an individual with psychological effects being most significant within the sport environment. Although commonly perceived, all stress may not be bad stress. In this section two specific types of stressors are examined; eustress and distress.

Originated by Selye (1987), the term eustress or “good stress” is defined as the non-specific response of the body to any demand placed upon it. Eustress can be considered as the optimal level of stress that an athlete can experience without having a negative effect to performance due to acquired stress. Researchers indicate that increasing stress is beneficial to performance until some optimum level is reached, after which performance will decline (Le Fevre, Matheny, & Kolt, 2003). Therefore, athletes are capable of acquiring manageable, healthy levels of stress without experiencing negative effects to overall performance in a sport.

According to Martens, Vealey, and Burton (1990), distress or “negative stress” can be defined as the sustainable imbalance between environmental demand and response capabilities under conditions in which an athlete's failure to meet demands is perceived as having important consequences and is responded to with increased levels of cognitive and somatic A-state anxiety. Distress can be characterized by concern about a sport performance, short or long term negative

effects, unpleasant feelings, decreased performance, and mental and physical problems (Mills, Reiss, & Dombek, 2008). Athletes who are unable to cope in intense, competitive situations may be more susceptible to experiencing distress, which can ultimately lead to the development of competitive sport anxiety.

Competitive Sport Anxiety

Competitive sport anxiety is very common in young athletes (Wilson, 2008). Anxiety is a pessimistic reaction that occurs when individuals doubt their ability to cope with the situation that causes stress (Humara, 1999). Anxiety can hinder an athlete's ability to positively or normally react. According to Wilson (2008), increased pressure and stress can develop into anxiety and affect a child's behavior and performance in a sport.

Research has identified several potential causes of competitive anxiety. Anshel and Delany (2001) evaluated youth sports competitors, male and female, where the participants appraised a list of possible sources of acute stress and anxiety. The results indicated that intense pressure of the sport, over competitiveness, and negative feedback increased stress for both males and females (Anshel & Delany, 2001). A similar observation by Peden (2007) explained that when a player becomes increasingly anxious in certain situations due to surroundings, negative automatic thoughts become more frequent and more negative, which can dominate thinking, destroy confidence, and damage performance.

There is a great deal of scholarly inquiry into identifying techniques that can be used for managing performance anxiety in athletes (Humara, 1999). Specific methods such as relaxation, cognitive restructuring, (Humara, 1999), and positive self-talk method (Peden, 2007) will be discussed in the Implications sections of this study. Furthermore, as heightened cognitive and

somatic anxiety may be related to a particular situation or activity that an individual participates in, it is important to identify the levels of competition present in youth sports.

Levels of Competitive Youth Recreational Sports

According to Selye's (1987) eustress theory, engaging in optimal sporting experiences requires a balance of ability and challenge, often where challenge is just beyond the ability level of the participant. In sports, this is reflected in one's ability to manage the inherent competitiveness of the activity which is often accompanied by a healthy level of anxiety. Competing in more intense, advanced levels of sport may have negative physical and psychological effects on young athletes as well. According to Linder, Johns, & Butcher (1991), burnout is the result of chronic stress which leads to the point where athletes feel that the physical demands placed on them are too much to handle and cannot be met. Stress causes anxiety to develop, which can affect an athlete's overall performance in a sport.

Burnout can occur from engaging in strenuous levels of play and training and can negatively affect an individual's functioning. Tofler and Butterbaugh (2005) stated that burnout not only impairs a child's ability to reach his or her potential, but promotes harmful behaviors to the athlete's physical and psychological well-being. Intense training, increased competitiveness, and setting higher expectations are frequently experienced within advanced levels of sport and can be the primary cause of burnout in athletes (Peden, 2007). The intent of this study was to determine whether advanced levels of sport competition acquire a significant relationship with competitive sport anxiety experienced youth athletes.

Multidimensional Anxiety Theory

Martens, Burton, Vealey, Bump, and Smith (1990) developed Multidimensional Anxiety Theory (MAT), which focuses specifically on competitive sport anxiety. This theory states that competitive anxiety is composed of two A-state components: cognitive A-state anxiety and somatic A-state anxiety. Cognitive A-state is defined as a momentary state of anxiety that consists of worry or an individual's negative thoughts or concerns about performance, as well as attention disruption and lack of concentration. Somatic A-state is identified as a momentary state of anxiety that includes psychological reaction symptoms that occur in the individual. Symptoms of somatic A-state include excessive sweating, increased heart rate, shakiness, or tension (Martens et al., 1990).

According to Martens and researchers (1990), somatic A-state anxiety may be classified as a common response to competition and can cause no necessary harm to performance. Unfortunately, an increase in cognitive A-state anxiety in an athlete can cause concentration and focus disruption and a mental development of worry and self-doubt. A lack of focus and concentration while participating in sports can negatively affect overall performance. Possible causes of cognitive A-state are negative verbal feedback, lack of readiness for competition, a negative attitude towards a previous poor performance, or negative expectations from other individuals such as team members, coaches, and family members (Marten et al., 1990).

Anxiety negatively influences an individual's psychological and physical abilities to perform (Hardy, 1996). A negative outcome of competitive sport anxiety is distress (Selye, 1987). Distress occurs when an individual is faced with demanding expectations that can result in a development of pressure and requires coping. Distress is a reoccurring problem in young

athletes due to their lack of skills, numerous performance errors, or inability to cope with tense situations (Peden, 2007). As a result of experiencing competitive anxiety leading to burnout and other mental and physiological problems, withdrawal from sport can become a common escape for youth and adolescents.

Multidimensional Anxiety Theory suggests that in relation to performance, cognitive anxiety experienced within an individual will show a negative linear relationship and somatic anxiety will show an inverted 'U' relationship (Martens et al., 1990). The inverted 'U' relationship explains that within an individual's somatic state, performance should be poor at very low levels of somatic state anxiety, optimal at an intermediate level of somatic state anxiety, and then become progressively worse as somatic anxiety increases beyond optimal level (Perreault & Marisi, 1997). Multidimensional Anxiety Theory served as the conceptual framework for this study.

The Competitive State Anxiety Inventory-2 (CSAI-2) is a survey based on the Multidimensional Anxiety Theory designed to measure competitive state anxiety (Martens, Burton, Vealey, Bump, and Smith, 1990). The CSAI-2 examines the existing state of competitive anxiety of an athlete by measuring existing A-states of cognitive anxiety, somatic anxiety, and self-confidence in athletes prior to competition (Martens et al., 1990). The CSAI-2 served as the primary instrumentation used for this study.

Previous studies have been conducted to investigate the predictions of the Multidimensional Anxiety Theory utilizing the CSAI-2 as well as several revised versions of the instrument. Chamberlain and Hale (2007) examined relationships between the intensity and directional aspects of competitive sport anxiety. The Competitive State Anxiety Inventory-2D

(direction) was used to evaluate the state anxiety intensity and direction of 12 experienced, undergraduate male golfers ranging in age from 20-22 years. The CSAI-2D is equivalent to the original CSAI-2 except for the addition of a seven-point scale which measures direction. In order to assess both the negative linear and inverted 'U' relationship described in the Multidimensional Anxiety Theory, anxiety and performance scores from identical putting tasks performed under three different anxiety-manipulated competitive conditions were used. Results indicated that cognitive anxiety intensity demonstrated a negative linear relationship with performance and somatic anxiety intensity showing a curvilinear relationship with performance. Multiple regression analyses indicated that direction, which accounted for 42% of the variance, was a better predictor of performance than intensity, which accounted for only 22% of the variance. Findings agreed with the original MAT hypothesis (Chamberlain & Hale, 2007).

Perreault and Marisi (1997) also investigated the predictions of the Multidimensional Theory examining its relationship with elite, wheelchair basketball players. Thirty-seven male players ranging from ages 25-40 years old participated in the study. Participants completed the CSAI-2 prior to each of three tournament games. Variables were analyzed using intra-individual procedures and to test the predictions of the MAT separate polynomial trend analyses were used. Results indicated no reliable trends between cognitive state anxiety, somatic state anxiety, state self-confidence, and basketball performance (Perreault & Marisi).

A similar study conducted by Barry, Bonnell, Reider, and Burton (2009) utilized the CSAI-2 to evaluate the effectiveness of an intensive 2-week Mental Skill Training (MST) program on stress management and cohesion. Thirty-eight adolescents between the ages of 12-16 years of age were assessed using the CSAI-2. The study consisted of a quasi-experimental,

pretest-posttest design, where 12 MST lugers attended stress management and cohesion sessions while two separate placebo and control groups attended sessions that were unrelated or contained no mental training at all. Analysis of variance results indicated that MST lugers reported significantly lower cognitive anxiety and higher group-task cohesion than the control/placebo groups. Significant differences were also found in somatic state anxiety, state self-confidence, individual task cohesion, and group social cohesion for the MST groups over to the placebo/control groups (Barry et al., 2009). Therefore, a young athlete's ability to manage stress and work well with others allows them to experience less anxiety than athletes who are unable to cope and work as a team in stressful environments.

Hammermeister and Burton (2004) examined how males and females appraise and cope with stress associated with competing in endurance sports. The CSAI-2 was administered to 184 tri-athletes, 69 distance runners, and 65 cyclists ranging from ages 33-66 years of age approximately an hour before competition. A multivariate analysis of co-variance (MANCOVA) analysis was performed to examine gender differences on competitive anxiety (somatic and cognitive anxiety) as well as a multivariate analysis of variance (MANOVA) analysis utilizing age as a covariate. Although age was found to have a significant effect on stress (Wilks' Lambda = .87, $F_{11, 257} = 3.56$, $p = .0001$) results indicated no significant differences between gender and competitive anxiety (Hammermeister & Burton, 2004).

The Competitive State Anxiety Inventory-2C (Children) is an instrument derived from the multidimensional anxiety theory as well as the original version of the Competitive State Anxiety Inventory-2. For the development of the CSAI-2C, the original CSAI-2 subscales were revised to provide modified language for children (Stadulis, MacCracken, Eidson, & Severance,

2002). The revised inventory consisted of the three pre-existing subscales of the CSAI-2 (cognitive anxiety, somatic anxiety, and self-confidence) but instead of 9 items per scale it consisted of five items per subscale, resulting in a 15-item scale. Researchers completed a confirmatory factor analysis of the CSAI-2C to assess the degree to which the three-dimension model of competitive anxiety comprised from the Multidimensional Anxiety Theory supported in reference to other models (Stadulis et al., 2002). After assessing 632 children ages 8-12 years old, internal consistency coefficients (i.e., Cronbach's Alpha) for the three subscales were: Cognitive A-state, $\alpha = .75$; Somatic A-state, $\alpha = .78$; and state self-confidence, $\alpha = .73$. The overall instrument internal consistency resulted in a value of .96 (Stadulis et al., 2002).

Strachan and Munroe-Chandler (2006) investigated female participants recruited from baton twirling competitions in Canada and the USA. Seventy-six athletes were divided into two age cohorts: 7-11 and 12-15 years. A modified version of the Sport Imagery Questionnaire (SIQ; Hall et al., 1998) and the Competitive State Anxiety Inventory 2 for Children (CSAI-2C) (Stadulis et al., 2002) were administered to each participant. MANOVA analysis results indicated a significant difference between the two age cohorts and the CSAI-2C anxiety subscales (Pillai's trace = 0.19, $R^2 = 0.19$, $F_{3,66} = 5.25$, $p < 0.05$). Furthermore, univariate ANOVAs revealed a significant difference for self-confidence ($F_{1,71} = 13.96$, $p < 0.01$) and cognitive anxiety ($F_{1,71} = 5.40$, $p = 0.02$). An examination of the means for each age cohort indicated that the 7-11 age cohort reported lower levels of cognitive anxiety and higher levels of self-confidence than the 12-15 age cohort. (Strachan & Munroe-Chandler, 2006).

Summary

Recreational youth sports have played an important role in the development of children and adolescence in past and present society. Sports provides youth with organizations and programs from which they can benefit through skill development and enhanced self confidence. Unfortunately, some children experience competitive sport anxiety, which can negatively impact youth. Competitive sport anxiety can cause athletes to lose focus, worry, and become anxious towards competition. The purpose of this study was to examine the relationship between level of competition and competitive anxiety in youth recreational soccer players. This research can be beneficial to recreational sports professionals and agencies because it can detect the extent to which youth experience competitive sport anxiety and if it is related to competition level. The information may encourage recreational sports agencies to take precautions such as modifying programming levels and techniques, or increasing coaching education on ways to help lower or prevent sport performance anxiety in youth recreational sport participants.

Chapter III: Methodology

The purpose of this study was to examine the relationship between level of competition and competitive anxiety in youth recreational soccer players. This chapter addresses the methodology of this study. Study design, sample, site, protocol, instrumentation, measurement of variables, and analysis of data are addressed.

Design of Study

The design of this study is cross-sectional and descriptive in nature. Data was collected on-site, at local outdoor recreational facilities in Eastern North Carolina which were used by the participating soccer leagues for practices and games. All participants were asked to complete the Competitive State Anxiety Inventory-2 as well as a participant demographic sheet. The participant demographic sheet consisted of general questions about each athlete such as age, race, and gender as well as questions about their personal soccer history. Questionnaires were administered to five recreational league soccer teams and five classic league soccer teams over the course of the first two scheduled home games, one game per team, and completed by participants prior to competing in that soccer game.

Study Population/Site

The population for this study consisted of young adolescents between 10-15 years of age who participated in youth recreational and classic soccer leagues through a local recreation and parks department located in Eastern North Carolina. The local recreation and parks department provides year-around recreational activities for children within their youth athletics program which includes: aquatics/swimming, baseball, dance, flag football, golf, gymnastics, martial arts, soccer, tennis, and track.

In partnership with a local soccer organization, the municipal recreation and parks department provides annual fall soccer leagues for youth participants. This study focused primarily on two levels of play that the organization provides which are: the classic league and the recreational league. For the fall 2009 season, approximately 240 athletes ages 10-15 registered to participate, half registering to participate in the recreational league and the other half participating in the classic league. Overall, 20 teams were formed (10-12 players per team), 10 recreational league teams and 10 classic soccer league teams.

Recreational level soccer league. The recreational soccer league is based locally, and soccer matches require limited travel within Eastern North Carolina. Considered a beginner league for youth soccer players, the recreational level soccer league involves a small level of commitment and consists of one to two practices a week with one game scheduled for each weekend (Pitt-Greenville Soccer Association, 2003).

Classic level soccer league. The classic level of soccer is a statewide soccer league marked by a high degree of commitment to the sport. All teams within the league travel approximately up to 120 miles for competitions, practice three to four times a week, and play one to two games per weekend. Classic soccer league players also participate in annual soccer tournaments (Pitt-Greenville Soccer Association, 2003)

During the fall, 2009 season, approximately 120 youth ranging from 10-15 were registered to participate in the department's annual soccer league. Each participating team consisted of an average of 10-12 players. Using cluster sampling, ten teams were randomly selected to participate in this study; five teams from the classic league and five teams from the recreational league. Cluster sampling is a method of randomly sampling study participants from

a population that consists primarily of groups or clusters (Babbie, 2008). This study gathered data on both co-ed and gender specific teams enrolled in the classic and recreational leagues with the municipal soccer programs. There were approximately 120 players total on the ten teams selected for data collection. Out of the 120 soccer players, 76 players (~63%) returned participant assent and parental consent forms to participate in the study. In total, the sample for this study consisted of 39 youth recreational league soccer participants and 37 classic soccer league participants.

Instrumentation

The key variables measured in this study were the two subcomponents of competitive sport anxiety (cognitive A-state and somatic A-state anxiety) and level of competition. The Competitive State Anxiety Inventory-2 (CSAI-2) was used to assess cognitive A-state anxiety, somatic A-state anxiety, and state self-confidence in youth recreational soccer participants prior to competition. The level of competition was the independent variable and was identified through demographic information provided within the survey.

Competitive state anxiety inventory-2. The Competitive State Anxiety Inventory-2 (CSAI-2) is a survey based on Multidimensional Anxiety Theory designed to measure competitive state anxiety (Martens, Burton, Vealey, Bump, and Smith, 1990). The CSAI-2 examines the existing state of competitive anxiety of an athlete by measuring cognitive A-state anxiety and somatic A-state anxiety. A-state is the momentary state of anxiety that an individual may experience at that particular moment in time (Martens et al., 1990). Used as an inverse measure of cognitive A-state anxiety and to provide a clearer picture of the positive end of the cognitive spectrum, state self-confidence is also measured within the inventory. The CSAI-2

consists of 27 items with nine items in each of the three subscales. A copy of the CSAI-2 can be found in Appendix C of this document.

The cognitive A-state subscale measures an athlete's momentary state of anxiety using items that relate to negative thoughts or concerns about performance, as well as attention disruption and lack of concentration (Martens et al., 1990). Examples of questions used to measure cognitive A-state anxiety are "I am concerned about this competition" and "I have self-doubts." The somatic A-state subscale measures momentary states of anxiety using items that relate to an athlete's physiological reactions to anxiety, and can be depicted by rapid heartbeat, shortness of breath, clammy hands, upset stomach, and tense muscles. Examples of some of the items used to measure somatic A-state are: "I feel nervous" and "I feel jittery." State self-confidence is defined as the reverse response of cognitive A-state anxiety as it exemplifies the momentary state of an athlete's positive mental cognition, which expresses the positive strength that an athlete possesses, that enables them to successfully react or perform in a sport (Martens et al., 1990). According to original development of the CSAI-2, cognitive A-state anxiety and state self-confidence serve as end points of a cognitive spectrum representing the range between positive and negative cognitive states. The final version of the instrument resulted in separate measurements of the two subcomponents to provide a clearer picture of the positive and negative measure of mental cognition as it relates to sport competition. Ultimately, researchers suggested that, with the presence of cognitive A-state, there is a lack of state self-confidence or conversely, the greater the state self-confidence, the less cognitive A-state anxiety is experienced (Martens, Vealey, & Burton, 1990).

All items are rated on a 4-point Likert-type scale with 1=Not at all, 2=A little, 3=Pretty much, and 4=Very much. The CSAI-2 is scored by computing a separate total for each of the three subscales, with scores that range from nine to 36. Corresponding values represent the item value and are summed accordingly (i.e., 1=1, 2=2, etc.). The higher the score, the greater the respondent's cognitive anxiety, somatic anxiety, or self confidence. No total score for the inventory is computed (Martens et al., 1990). The cognitive A-state subscale was scored by totaling the responses for the following nine items: 1, 4, 7, 10, 13, 16, 19, 22, and 25. The somatic A-state subscale was scored by adding the responses for the following nine items: 2, 5, 8, 11, 14R (reverse scoring), 17, 20, 23, and 26. The state self confidence subscale was scored by totaling the responses for items 3, 6, 9, 12, 15, 18, 21, 24, and 27. All items on the survey are positively stated except for item 14 which is stated as negatively and thus, was scored reversely in the analyses where 1=4, 2=3, 3=2, and 4=1.

One key reason for utilizing the CSAI-2 instead of the CSAI-2C children's version as the primary instrument for this study can be explained by the age gap found between the two scales. According to previous research, the CSAI-2C has primarily been used in studies examining children 12 years of age and under (Strachan and Munroe-Chandler, 2006). Stadulis, MacCracken, Eidson, & Severance's (2002) purpose for revising the CSAI-2 was to provide an effective measure of competitive anxiety for children from 8-12 years old. The CSAI-2 has primarily been utilized in studies examining competitive sport anxiety in participants ages 12 and older (Barry, Bonnell, Reider, & Burton, 2009). The present study was interested in examining youth athletes' ages 10-15 year old.

Further justification for the use of the CSAI -2 as opposed to the CSAI-2C is that the CSAI-2C is designed to evaluate competitive anxiety in a broad sense, describing competitive anxiety as any internal or external situation that and individual may face outside of sport (Stadulis et al., 2002). The CSAI-2 provides an appropriate measurement of athletes' mental and physical states prior to a sport competition (Martens, et al., 1990) which is the basis of this study. To provide an effective measurement for the study population investigated, the CSAI-2 was utilized within this study.

Reliability. Reliability for each scale was determined through internal consistency analyses. Lane, Sewell, Terry Bartram, and Nesti (1998) completed a confirmatory factor analysis of the CSAI-2 after assessing 1,213 volunteer participants (1,025 males, 188 females) ages 15-39. Internal consistency coefficients (i.e., Cronbach's Alpha) for the three subscales were: Cognitive A-state, $\alpha = .80$; Somatic A-state, $\alpha = .85$; and state self-confidence, $\alpha = .88$, each representing acceptable values of measurement for the three subscales.

Validity. To test for concurrent validity, each of the CSAI-2 subscales were compared to four existing A-state and A-trait inventories; Sports Competition Anxiety Test (SCAT), Achievement Anxiety Test (AAT), Internal-External Central Scale, and the Test Anxiety Inventory (Martens, Burton, Vealey, Bump, and Smith, 1990). The sample size for this study contained 54 elite college wrestlers. The SCAT indicated to be most compatible to the CSAI-2 due to its sport-related content. Values for concurrent validity were $r = .45$ for cognitive A-state, $r = .62$ for somatic A-state, and $r = -.55$ for state self confidence.

Protocol

The use of human subjects for the purpose of research during this study was approved by the Institutional Review Board (IRB) at East Carolina University. Prior to the soccer season, a meeting with the local recreation and parks department was organized where directors and coaches were briefed on the details of the study. This group granted approval to collect data within their soccer facilities. Contact information for each coach and team were provided for the recreational and classic leagues through each league's online site. Coaches were contacted via e-mail and were informed of the study and agreed to allow meetings with their team. Separate meetings were set up on the first scheduled week of soccer practice, where everyone (soccer players, coaches, and parents) was briefed on the study and its purpose, benefits, criteria, confidentiality, and the right of non-participation. Parent consent and child assent forms were distributed to all parents and athletes who were interested. Forms were returned in the following practice or prior to the next scheduled game. A copy of the IRB approval form is provided in Appendix A. Parent consent and child assent forms is provided in Appendix B of this study.

Approximately one hour before participating in the first and second home game of the season, participants were administered the Competitive State Anxiety Inventory-2 (CSAI-2). The survey contained 27 questions related to current physical, mental, and emotional states.

Participants were also asked to complete an information sheet that collected information on the league name and the participant's age, gender, league level, and youth soccer experience. Once collected, data were entered into the Statistical Package for the Social Sciences (SPSS) analysis software where it was cleaned and recorded for further analysis.

Analysis

This study addressed the following research question:

Is there a relationship between level of competition and competitive anxiety in youth recreational soccer players?

The independent variable for this study was level of competition: recreational or classic. The dependent variables for this study were cognitive A-state anxiety and somatic A-state anxiety. To investigate the study research question, two analysis of variance (ANOVA) tests were performed utilizing cognitive A-state anxiety and somatic A-state anxiety as the dependent variables and level of competition as the independent variable. The ANOVA test assesses whether the means of several groups are statistically equal across a variable (Watkins, 2008).

Chapter IV: Results

The purpose of this study was to examine the relationship between level of competition and competitive anxiety in youth recreational soccer players. This chapter addresses the results of the analysis. A complete analysis of the data, including descriptive statistics and inferential statistics is presented in this chapter. Results describe whether there was a positive or negative relationship between levels of competition and the two subcomponents of competitive sport anxiety in youth recreational soccer players. The two levels of competition used in the analysis were the recreational youth soccer league and classic youth soccer league, which allowed the researcher to gather data on beginner and advanced levels of youth soccer.

Descriptive Statistics

Seventy-six subjects volunteered to participate in this study from both youth soccer leagues. Through cluster sampling, five teams from each league were selected. The sample consisted of 39 recreational league soccer players (51.3%) and 37 classic league participants. Participants were asked to answer demographic questions, which included gender and race/ethnicity. Table 1 provides demographic information specific to participants' league level, gender, and race/ethnicity.

Table 1

Demographic Information of Youth Recreational Soccer Players

Item	Number of Participants (n=76)	Percentage (%)
<u>Level of Competition</u>		
Recreational League Players	39	51.3
Classic League Players	37	48.7
<u>Gender</u>		
Male Players	32	42.1
Female Players	44	57.9
<u>Race/Ethnicity</u>		
Caucasian Players	68	89.5
African-American Players	5	6.6
Hispanic Players	2	2.6
Players of Other Races	1	1.3

The majority of the sample was female (57.9%) and 89.5% Caucasian (89.5). In examining the age distribution, 9.2% were 10 years old, 18.4% were 11 years old, 27.6% were 12 years old, 23.7% were 13 years old, 19.7% were 14 years old, and 1.3% were 15 years old. The soccer age groups established within the recreational and classic soccer leagues were designed by participants' month and year of birth. Participants were required to meet a certain age by August which started the beginning of the season and determined what soccer age group he/she would participate in. Table 2 provides demographic information with regard to age and soccer age group.

Table 2

Demographic Information of Participants' Age and Soccer Age Groups

Age	Number of Participants (N=76)	Percentage (%)
10	7	9.2
11	14	18.4
12	21	27.6
13	18	23.7
14	15	19.7
15	1	1.3
<u>Soccer Age Group</u>		
U12 (10-12)	24	31.6
U13 (12-13)	21	27.6
U14 (13-14)	14	18.4
U15 (14-15)	17	22.4

Competitive State Anxiety Inventory-2 Responses

Soccer participants were asked to respond to 27 items that comprised the three subscales of the competitive state anxiety inventory-2: cognitive A-state, somatic A-state, and state self-confidence. Responses were documented using a 4-point Likert-type scale, where 1 was “*not at all*” and 4 represented “*very much*.” All 76 participants fully completed the questionnaire. An overview of all participants’ responses is shown in Table 3.

Table 3

Participants Responses to the Competitive State Anxiety Inventory-2

Item	Not at all	A Little	Pretty Much	Very Much	Mean	Median	Standard Deviation
1) I am concerned about this competition	21 (27.6)	37 (48.7)	12 (15.8)	6 (7.9)	2.04	2.00	.87
2) I feel nervous	30 (39.5)	42 (55.3)	4 (5.3)	0 (0.0)	1.66	2.00	.58
3) I feel at ease	12 (15.8)	22 (28.9)	30 (39.5)	12 (15.8)	2.55	3.00	.94
4) I have self doubts	43 (56.6)	30 (39.5)	3 (3.9)	0 (0.0)	1.47	1.00	.58
5) I feel jittery	39 (51.3)	27 (35.5)	7 (9.2)	3 (3.9)	1.66	1.00	.81
6) I feel comfortable	3 (3.9)	14 (18.4)	35 (46.1)	24 (31.6)	3.05	3.00	.81
7) I am concerned that I may not do as well in this competition as I could	36 (47.4)	29 (38.2)	8 (10.5)	3 (3.9)	1.71	3.00	.81
8) My body feels tense	47 (61.8)	24 (31.6)	4 (5.3)	1 (1.3)	1.46	1.00	.66
9) I feel self-confident	4 (5.3)	22 (28.9)	26 (34.2)	24 (31.6)	2.92	3.00	.91
10) I am concerned about losing	27 (35.5)	30 (39.5)	14 (18.4)	5 (6.6)	1.96	2.00	.90
11) I feel tense in my stomach	49 (64.5)	25 (32.9)	2 (2.6)	0 (0.0)	1.38	1.00	.54
12) I feel secure	9 (11.8)	20 (26.3)	29 (38.2)	18 (23.7)	2.74	3.00	.96
13) I am concerned about performing poorly	25 (32.9)	32 (42.1)	13 (17.1)	6 (7.9)	2.00	2.00	.91

Table 3 Continued

Participants Responses to the Competitive State Anxiety Inventory-2

Item	Not at all	A Little	Pretty Much	Very Much	Mean	Median	Standard Deviation
14) My body feels relaxed	28 (36.8)	27 (35.5)	16 (21.1)	5 (6.6)	1.97	2.00	.92
15) I'm confident I can meet the challenge	2 (2.6)	11 (14.5)	35 (46.1)	28 (36.8)	3.17	3.00	.77
16) I'm concerned about performing poorly	28 (36.8)	33 (43.4)	9 (11.8)	6 (7.9)	1.91	2.00	.90
17) My heart is racing	50 (65.8)	18 (23.7)	4 (5.3)	4 (5.3)	1.50	1.00	.82
18) I'm confident about performing well	6 (7.9)	19 (25.0)	28 (36.8)	23 (30.3)	2.89	3.00	.93
19) I'm concerned about reaching my goal	26 (34.2)	26 (34.2)	15 (19.7)	9 (11.8)	2.09	2.00	1.01
20) I feel my stomach sinking	66 (86.8)	8 (10.5)	1 (1.3)	1 (1.3)	1.17	1.00	.50
21) I feel mentally relaxed	10 (13.2)	14 (18.4)	28 (36.8)	24 (31.6)	2.87	3.00	1.01
22) I'm concerned that others will be disappointed with my performance	33 (43.4)	26 (34.2)	10 (13.2)	7 (9.2)	1.88	2.00	.97
23) My hands are clammy	57 (75.0)	13 (17.1)	2 (2.6)	4 (5.3)	1.38	1.00	.78
24) I'm confident because I mentally picture myself reaching my goal	7 (9.2)	23 (30.3)	30 (39.5)	16 (21.1)	2.72	3.00	.90
25) I'm concerned I won't be able to concentrate	49 (64.5)	21 (27.6)	4 (5.3)	2 (2.6)	1.46	1.00	.72
26) My body feels tight	58 (76.3)	14 (18.4)	2 (2.6)	2 (2.6)	1.32	1.00	.66
27) I'm confident of coming through under pressure	5 (6.6)	20 (26.3)	31 (40.8)	20 (26.3)	2.87	3.00	.88

With regard to the cognitive A-state subscale, high-percentage responses were identified when participants were asked particular questions related to experiencing cognitive anxiety prior to a competition. When responding to “I have self-doubts” more than 90% of the participants responded not at all or a little. When responding to “I am concerned that I may not do as well in this competition as I could” over 80% of participants responded not at all or a little. Over 90% of

participants responded not at all or a little to the item “I’m concerned I won’t be able to concentrate.”

With regard to the somatic A-state subscale, high-percentage responses were identified when participants were asked particular questions related to experiencing somatic anxiety prior to competition. When responding “I feel nervous” about 95% of participants stated not at all or a little. When responding to “I feel tense in my stomach” approximately 97% responded not at all or a little. When responding to “I feel my stomach sinking”, roughly 97% participants responded not at all or a little.

With regard to the state self-confidence subscale, high-percentage responses were identified when asking participants particular questions related to self-confidence prior to competition. When asked “I feel comfortable” approximately 77% responded pretty much or very much. When asked “I’m confident I can meet the challenge” approximately 80% responded pretty much or very much. Roughly 70% of participants responded a little or pretty much when asked “I’m confident of coming through under pressure.”

Internal Consistency Analysis

Based on the survey data collected within this study, an internal consistency analysis was conducted to determine reliability for each subscale results. Internal consistency coefficients (i.e., Cronbach’s Alpha) for the three subscales were: Cognitive A-state, $\alpha = .71$; Somatic A-state, $\alpha = .67$; and state self-confidence, $\alpha = .79$. Comparatively, previous reliability reports of the CSAI-2 reported internal consistency coefficients for the three subscales as: Cognitive A-state, $\alpha = .80$; Somatic A-state, $\alpha = .85$; and state self-confidence, $\alpha = .88$. Internal consistency of the data for this study was slightly lower in comparison, yet two of the three subscales were greater

than .70 and the third was slightly below .70. According to Garson's research on reliability analyses (2009), in exploratory research alpha coefficients should be at least .70 or higher to retain an item in an "adequate" scale.

Inferential Statistics

The variables tested within this study were levels of soccer competition and subcomponents of competitive anxiety. Two different levels of youth recreational soccer, recreational and classic soccer leagues, were compared to determine their relationship to the two subscales used in the CSAI-2 to measure competitive anxiety: cognitive A-state and somatic A-state. For the purpose of this study, data was analyzed using Analysis of Variance (ANOVA).

According to Martens and researchers (1990), the presence of the state self-confidence subscale in the CSAI-2 is to provide an inverse response to cognitive A-state anxiety. The researchers suggested that the presence of cognitive A-state anxiety is inversely related to state self-confidence. Thus, state self-confidence is not presented as a contributor of sport anxiety in the Multidimensional Anxiety Theory (Martens et al., 1990). Competitive sport anxiety is observed through the cognitive anxiety and somatic anxiety factors only. To confirm this inverse relationship, a correlation analysis was performed between cognitive A-state anxiety and state self-confidence. Results indicated that the subscales were significantly and inversely related ($r = -.382, p < .01$).

Research Question: Is there a relationship between level of competition and competitive anxiety in youth recreational soccer players?

Two Analyses of Variance (ANOVA) tests were conducted in order to investigate the difference in the Competitive State Anxiety Inventory-2 (CSAI-2) scores between the

recreational league and the classic league. The independent variable was soccer level (recreational league or classic league) and the dependent variable was each of the CSAI-2 variable scores (cognitive and somatic). The results are summarized in Table 4.

Table 4

ANOVA Results: Mean Anxiety Scores by Group Assignment (n=76)

Scale	Recreational ^a	SD	Classic ^b	SD	Difference	F	p
Cognitive	15.18	3.98	17.95	4.16	2.77	8.79	.004
Somatic ^a n=39 ^b n=37	12.95	2.68	14.08	3.87	1.13	2.22	.141

HO₁: There is no relationship between level of competition and cognitive A-anxiety in youth recreational soccer players.

The ANOVA results revealed that the average cognitive A-state anxiety score was significantly higher for the classic league participants over recreational league participants, with a difference of 2.77 ($F_{1, 74} = 8.79, p < .01$). The model explains 3.3% of the variance ($\eta^2 = .326$).

HO₂: There is no relationship between level of competition and somatic A-anxiety in youth recreational soccer players.

The ANOVA results revealed that, although the average somatic A-state anxiety score appeared to be slightly higher for the classic league participants over the recreational league participants (with a difference of 1.13), scores between the two groups were not significantly different.

Further analyses. To further analyze the data in this study, an assessment was conducted to consider potential effects from gender and age. Participants indicated their age by responding

to the question, “What is your age”? The data was re-coded into two age groups; 10-12 year olds (n=42) and 13-15 year olds (n=34). Participants also indicated their gender by responding to the question, “What is your gender”? A univariate ANOVA was conducted on the cognitive anxiety scores, with gender, age group, and soccer level as the fixed factors. The results revealed no significant effect from the interaction between soccer level and gender or soccer level and age. The analysis was also conducted for the somatic anxiety scores and results also indicated no significant effect from the interactions.

Chapter V: Conclusions and Recommendations

The purpose of this study was to examine the relationship between level of competition and competitive anxiety in youth recreational soccer players. This chapter discusses the findings of the study. Conclusions are presented and recommendations for further research are addressed. The two subscales that were measured within this study were cognitive A-state anxiety and somatic A-state anxiety. The intent of this study was to determine if the level of soccer competition in which youth recreational participants were engaged were significantly related to competitive sport anxiety (cognitive A-state and somatic A-state anxiety).

Summary of CSAI-2 Subscale Results

Researchers suggested that competitive sport anxiety is a multidimensional construct, containing both cognitive and somatic subcomponents (Martens et al., 1990). The subcomponents of competitive anxiety, cognitive and somatic anxiety, are hypothesized to be conceptually independent, having the ability to negatively affect an athlete with or without the presence of another.

Cognitive A-state anxiety. The results of this study indicated that the scores for the cognitive A-state anxiety were significantly higher for youth soccer players participating in the classic league when compared to youth soccer players participating in the recreational league. These findings suggested a relationship between advanced levels of sport competition and cognitive anxiety experienced in youth athletes. Based upon these findings, the researcher was able to reject the null hypothesis.

Two aspects of the data analysis may explain the significant relationship found between the classic league players and cognitive anxiety. As explained earlier, the classic recreational

league is identified as the more advanced level of soccer competition. Higher levels of competition may result in an increase in physical challenge as well as place more demands on an athlete's ability to perform. Linder, Johns, & Butcher (1991) indicated that burnout occurs when athletes feel that the demands in a sport are too much to handle and cannot be met--causing them to experience anxiety within their performance. Experiencing competitive sport anxiety could have potentially affected classic league participants' ability to positively or normally react prior to their sport participation, affecting their overall responses.

Furthermore, classic league participants invested more time and energy in the sport than the recreational league. Being involved in more practices, competition, travel, and tournaments created higher stakes for the classic league participants. With more being at stake, classic league players could be more susceptible to experiencing higher levels of anxiety related to competition.

Somatic A-state anxiety. The results of this study indicated no significant relationship between levels of soccer competition and somatic A-state anxiety experienced in the youth athletes. Based upon these findings, the researcher was unable to reject the null hypothesis.

Two aspects of the analysis may explain the lack of significance in this relationship. First, the data analysis revealed a larger difference in the standard deviations between the groups for the somatic comparison (1.19) than for the cognitive comparison (.18). While the test for homogeneity of variances was not significant, the larger difference does suggest potential shared variance between the recreational group and the classic group.

A second point could be association of the somatic items in the CSAI-2. Although readability for the CSAI-2 was appropriate for the age group used in this study (10-15), the items used to measure somatic anxiety could possibly have been hard to relate to for the younger

participants. According to Martens and researchers (1990) CSAI-2 provides a measurement for athletes ages 13 and older evaluating mental and physical states prior to sport competition (Martens, et al., 1990). Therefore, younger participants' responses to the items could have potentially affected the degree of significance as it related to levels of competition. A couple of the somatic anxiety items included "I feel jittery" and "My hands feel clammy".

Similar as well as differentiating results have been concluded in previous studies which also focused on measuring competitive sport anxiety in athletes. Several researchers utilized older populations for their studies such as Perreault and Marisi's (1997) who examined 25-40 year old elite, wheelchair basketball players' performance levels and how it related to competitive anxiety before competition. Results indicated no reliable trends between the subscales of competitive anxiety and participant's basketball performance. Barry, Bonnell, Reider, and Burton (2009) assessed 38 youth athletes ages 12-16 years old examining the effectiveness of a Mental Skill Training program based on stress management and cohesion. The use of the CSAI-2 administered to control and experimental groups allowed researchers to investigate how accurate management and training can alleviate stress and anxiety in athletes. Results revealed significant differences in competitive anxiety and self confidence for the athletes who participated in the classes as opposed to the control group. (Barry et al., 2009).

There are previous studies that examine control variables such as gender and age when evaluating competitive anxiety in athletes. Hammermeister and Burton (2004) examined how males and females appraise and cope with stress associated with competing in endurance sports. A MANCOVA analysis to examine gender differences as well as a MANOVA analysis to investigate age was performed. Results indicated age as having a significant effect on stress and

revealed no significant differences between gender and competitive anxiety (Hammermeister & Burton, 2004).

Strachan and Munroe-Chandler (2006) conducted a similar study using 76 female athletes divided into two age cohorts: 7-11 and 12-15 years of age. Each group was administered the CSAI-2C (Children) version of the CSAI-2 and a MANOVA analysis as well as Univariate ANOVAs were conducted. Results revealed a significant difference between the two age groups for the CSAI-2C subscales indicating that the 7-11 age cohort expressed lower levels of cognitive anxiety and higher levels of self-confidence than the 12-15 age cohort. (Strachan & Munroe-Chandler, 2006). These results were not congruent with the results found in this study where both age groups examined had no effect on levels of anxiety experienced.

Future research identifies significant findings utilizing the CSAI-2 to determine the relationship of competitive sport anxiety and several specific factors as it relates to sport and competition. Alternatively, the results of this current study not only provides research for the specific study population of youth recreational soccer players ages 10-15 years old, but also provides significant findings of how levels of competition can be related to competitive sport anxiety not only within youth recreational soccer but within the recreational sport field.

Recommendations for Recreational Service Providers

This study provided researchers as well as recreational service providers with the ability to comprehend and distinguish between cognitive anxiety, somatic anxiety, and self-confidence and how each concept may be related to participants in youth recreational soccer. Understanding these concepts can assist recreational service providers and researchers better understand the relationship between anxiety and sport performance.

Although a healthy and manageable amount of eustress is acceptable in competitive situations, too much stress or anxiety experienced in athletes can be detrimental to their physical and mental ability to perform. To help alleviate anxiety within youth recreational sports participants, four key recommendations are suggested for recreational service providers: 1) be attentive to levels of competition and assignment of participants to levels of competition, 2) become familiar with anxiety reduction techniques and how they may be infused into programs, 3) be attentive to program goals and outcomes, and 4) consider infusing anxiety management into coaches training.

According to the results found in this study, cognitive anxiety can share a positive relationship with competitive levels found in youth recreational sports. Cognitive anxiety can occur during competitive situations and can affect an athlete's mental capacity causing negative thoughts about the situation, performance, or competition. Recreational service providers should be attentive to levels of competition and assignment of participants to levels of competition. By modifying the levels of competition within programs, recreational service providers potentially have the ability to alleviate cognitive anxiety occurring within sport participants. When assigning recreational participants to competitive levels of a sport, recreational service providers must be considerate of the athlete's physical and mental ability to perform on that particular level. Potential outcomes of participation on advanced competitive levels (such as burnout) should be considered as well.

Another option for recreational service providers to become proactive in helping alleviate competitive sport anxiety is becoming familiar with anxiety reduction techniques and how they can be infused into their programs. A few techniques that sport providers can implement within

their programs include the positive self-talk method, the relaxation exercise, and cognitive restructuring. The positive self-talk method occurs when an athlete repeats positive comments to him/herself during stressful or competitive situations (Peden, 2007). This exercise allows the individual to provide self-motivation to be able to successfully perform. Relaxation method is a popular exercise that is used in sports prior to competition and has been recognized for reducing both cognitive and somatic anxiety (Humara, 1999). Athletes use movement and stretching techniques and calming exercises to relax all body muscles and reduce anxiety symptoms prior to competition. Finally, cognitive restructuring is a method that requires participants to consider specific situations and then interpret their feelings/behaviors within the situation, therefore reducing cognitive anxiety (Humara, 1999). This exercise provides athletes with the opportunity to increase their performance by decreasing pressure from the competition. Coaches and recreational service providers could implement these techniques before and after practices and competitions to help alleviate anxiety in recreational participants.

Recreational service providers should always be attentive to the goals and outcomes set within their programs. Program goals in a recreational setting should be centered around positive skill building, education, and fun and focus less on competition. Program outcomes should be focused on developing well-rounded, active, healthy individuals. All activities should contribute to fulfilling the mission and activities that contrast should be managed or eliminated.

To ensure positive programs and participants, recreational service providers should consider infusing anxiety management into coaches training. This effort will allow coaches to become more aware of the presence of anxiety within recreational sports and also provide knowledge of useful techniques to identify and prevent anxiety in participants. If agencies are

not conducting training, they should consider implementing training and be thoughtful to include anxiety management as part of the training.

Study Limitations

Limitations observed within this study focused on two specific areas of improvement: sample size and external factors. The sample size for this study was affected due to a lack of consistency in the return rate of participants' and parents' signed assent and consent forms. These forms were required prior to the season's first or second scheduled home competition for participants to be permitted to participate in the study. Several players were not allowed to participate in the study due to this fact, which resulted in a smaller sample size used for this study.

The presence of any external factors that could possibly relate to the development of competitive sport anxiety in recreational participants should be considered when conducting future research on this study. Examples such as personal, family, or environmental issues can be responsible for creating anxiety and may possibly alter overall results.

Recommendations for Future Research

To benefit future research and to gain a greater perspective of how competitive sport anxiety effects the youth recreational population, a larger group of sport participants should be sampled. In addition, other control variables should be studied, such as gender and ethnicity, and analyzed to determine the relationship between those groups and competitive anxiety in youth sports. These recommendations will also assist in developing a more generalized study of how competitive anxiety may affect the youth sport population.

Another recommendation for future research focuses on sample selection. Participants in this study consisted of beginner and advanced leagues of youth soccer players ranging from ages 10-15. The use of an older sample group or different sport groups that compete at different times of the year is recommended to provide sufficient research of competitive anxiety in sports. Also, due to the exclusive sampling in Eastern North Carolina only, it may be of interest to conduct future research that provides sampling in other geographic locations.

In the event that future researchers choose to study the same age group or a younger age group the use of the Competitive State Anxiety Inventory-2C is recommended. The CSAI-2C is a revised children's form of the CSAI-2 administered with modified language that is appropriate for ages 8-12 years (Stadulis, et al., 2002). This revised inventory consists of 15 items instead of 27 that also measures existing states of cognitive anxiety, somatic anxiety, and confidence. The use of the CSAI-2C with a younger study group may assist in providing better association of terms used to describe specific states of anxiety experienced while competing in sports.

Summary

Research revealed that competitive sport anxiety is present within youth recreational sports. Without having the ability and proper knowledge to cope in competitive, stress-inducing situations and environments can have an affect the way an individual thinks, feels, and reacts. This study provides researchers, recreational service providers, coaches, as well as athletes with an in-depth overview of the multidimensional concept that is competitive sport anxiety. Hopefully, this investigation will assist in expanding research focused on anxiety the complex reactions of an individuals' cognitive and physiological states.

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APPENDIX A

INSTITUTIONAL REVIEW BOARD APPROVAL FORM

UMCIRB #:

RECEIVED

FEB 08 2010

UNIVERSITY AND MEDICAL CENTER INSTITUTIONAL REVIEW BOARD
REVISION FORM

UMCIRB

UMCIRB #: 09-0583 Date this form was completed: 2/8/2010
Title of research: The Relationship between Levels of Competition and Competitive
Principal Investigator: Joy Cooper Sport Anxiety in Youth Soccer Players.
Sponsor:

Fund number for IRB fee collection (applies to all for-profit, private industry or pharmaceutical company sponsored project revisions requiring review by the convened UMCIRB committee):

Fund	Organization	Account	Program	Activity (optional)
		73059		

Version of the most currently approved protocol:

Version of the most currently approved consent document:

CHECK ALL INSTITUTIONS OR SITES WHERE THIS RESEARCH STUDY WILL BE CONDUCTED:

- ☒ East Carolina University ☐ Beaufort County Hospital
☐ Pitt County Memorial Hospital, Inc ☐ Carteret General Hospital
☐ Heritage Hospital ☐ Boice-Willis Clinic
☐ Other

The following items are being submitted for review and approval:

- ☐ Protocol: version or date
☒ Consent: version or date Title of Study PASSANT
☐ Additional material: version or date
☒ Change name of study.

Complete the following:

1. Level of IRB review required by sponsor: ☐ full ☒ expedited
2. Revision effects on risk analysis: ☐ increased ☒ no change ☐ decreased
3. Provide an explanation if there has been a greater than 60 day delay in the submission of this revision to the UMCIRB.
4. Does this revision add any procedures, tests or medications? ☐ yes ☒ no If yes, describe the additional information:
5. Have participants been locally enrolled in this research study? ☒ yes ☐ no
6. Will the revision require previously enrolled participants to sign a new consent document? ☐ yes ☒ no

Briefly describe and provide a rationale for this revision original variables were studied collectively instead of seperately

Joy Cooper Joy Cooper 2/8/10
Principal Investigator Signature Print Date

Box for Office Use Only

The above revision has been reviewed by:		
<input type="checkbox"/> Full committee review on _____	<input checked="" type="checkbox"/> Expedited review on <u>2/12/2010</u>	
The following action has been taken:		
<input checked="" type="checkbox"/> Approval for period of <u>2/12/2010</u> to <u>8/13/2010</u>		
<input checked="" type="checkbox"/> Approval by expedited review according to category <u>45 CFR 46.110</u>		
<input type="checkbox"/> See separate correspondence for further required action.		
<u>Mitchell Elbe</u>	<u>Mitchell Elbe</u>	<u>2/12/2010</u>
Signature	Print	Date

APPENDIX B

PARENT CONSENT FORM/
CHILD ASSENT FORM

Parental Consent Form

Dear Parent/Guardian,

I'm presently working on my Masters of Recreation and Leisure Studies at East Carolina University. As part of my degree requirements, I am planning an educational research project to take place fall 2009 that will help me to learn more about The relationship between level of soccer competition and competitive sport anxiety youth soccer participants prior to competing in soccer games. The types of anxiety that I will be examined are cognitive anxiety and somatic anxiety as well the player's self confidence. The fundamental goal of this research study is to help in finding out whether a child's level of play can relate to anxiety while playing sports.

As part of this research project, your child will participate in completing 1 questionnaire that takes approximately 10 minutes to complete. As this study is for educational research purposes only, the results of each questionnaire **will not** affect your child's participation in sporting events. This study contains no foreseeable risks on participants.

I am requesting permission from you to use your child's data in my research study. Please understand that your permission is entirely voluntary.

If you have any questions or concerns, please feel free to contact me at (704) 695-5863 or by emailing me at jtc0421@ecu.edu. If you have any questions about the rights of your child as a research participant, you may contact *The University and Medical Center Institutional Review Board* at 252-744-2914.

Please detach and return the form below by tomorrow. Thank you for your interest in my educational research study.

Joy Cooper
Researcher/Investigator

As the parent or guardian of _____,
(write your child's name)

- ☐ I grant my permission for Ms. Joy Cooper to use my child's data in her educational research project. I voluntarily consent to Ms. Joy Cooper using any of the data gathered about my student in her study. I fully understand that the data will not affect my child's participation in sporting events, will be kept completely confidential, and will be used only for the purposes of her research study.
- ☐ I do NOT grant my permission for Ms. Joy Cooper to use my child's data in her educational research project regarding written instruction.

Signature of
Parent/Guardian: _____ Date: _____

Minor Assent Form

Title of Research Study: The Relationship between Levels of Soccer Competition and Competitive Sport Anxiety in Youth Soccer Players.

Principal Investigator: Joy Cooper

Telephone #: (704) 695-5863

What is the research project about?

I would like to ask you a few questions about how you feel before playing in a soccer game. Or you excited, nervous about competing, scared, or relaxed? Express how you feel before you play so I can test if the way you feel can affect how self-confident you are about competing in a soccer game.

Who will be in the research study?

U11 through U15 Greenville Recreation & Parks Department Fall recreational Soccer league participants.

What will I be asked to do?

You will be asked to take one survey that will take approximately 10 minutes to complete.

Where will the research study take place?

This research study will take place at the Soccer facility before any (1) scheduled soccer game you may participate in this soccer season.

How can I participate?

You can participate in this study by signing and returning this form as well as getting the parent consent form signed by your parent and returned to practice by tomorrow.

What happens if I change my mind about participating?

Participating in this study is your choice. You may stop at any time during the study. No one will be upset with you if you decide not to participate.

Who can answer any questions that I might have later on?

You can talk to Joy Cooper at (704) 695-5863 if you have more questions at any time during the study.

You can also call the university office at 744-2914 if you are concerned about how you have been treated in the study.

If I put my name at the end of this form it means I agree to be in this study. I will be given a copy of this form to keep after I sign it and so will my parents.

Print your name _____

Sign your name_____

Date _____

APPENDIX C

COMPETITIVE STATE ANXIETY INVENTORY-2

Competitive State Anxiety Inventory-2

Directions: A number of statements that athletes have used to describe their feelings before competition are given below. Read each statement and then circle the appropriate number to the right of the statement to express how you feel right now -- at the moment. There are no right or wrong answers. Do not spend too much time on any one statement, but choose the answer which describes your feeling right now. Please do not leave any question unanswered.

	Not At All	A Little	Pretty Much	Very Much
1. I am concerned about this competition	①	②	③	④
2. I feel nervous	①	②	③	④
3. I feel at ease	①	②	③	④
4. I have self doubts	①	②	③	④
5. I feel jittery	①	②	③	④
6. I feel comfortable	①	②	③	④
7. I am concerned that I may not do as well in this competition as I could	①	②	③	④
8. My body feels tense	①	②	③	④
9. I feel self-confident	①	②	③	④
10. I am concerned about losing	①	②	③	④
11. I feel tense in my stomach	①	②	③	④
12. I feel secure	①	②	③	④
13. I am concerned about performing poorly	①	②	③	④
14. My body feels relaxed	①	②	③	④
15. I'm confident I can meet the challenge	①	②	③	④
16. I'm concerned about performing poorly	①	②	③	④
17. My heart is racing	①	②	③	④
18. I'm confident about performing well	①	②	③	④
19. I'm concerned about reaching my goal	①	②	③	④
20. I feel my stomach sinking	①	②	③	④
21. I feel mentally relaxed	①	②	③	④
22. I'm concerned that others will be disappointed with my performance	①	②	③	④
23. My hands are clammy	①	②	③	④
24. I'm confident because I mentally picture myself reaching my goal	①	②	③	④
25. I'm concerned I won't be able to concentrate	①	②	③	④
26. My body feels tight	①	②	③	④
27. I'm confident of coming through under pressure	①	②	③	④

Please provide the following demographic information for analysis purposes only.

1. What is the name of your soccer team?

5. Are you... ☐ Male
☐ Female

2. What league level do you play soccer in?

- ☐ Classic League
- ☐ Recreational League

6. Are you... ☐ White
☐ Black
☐ Hispanic
☐ Other

3. What soccer age group are you in?
soccer?

- ☐ U12 (10-12)
- ☐ U13 (12-13)
- ☐ U14 (13-14)
- ☐ U15 (14-15)

5. How long have you been playing

4. How old are you?

- ☐ 10
- ☐ 11
- ☐ 12
- ☐ 13
- ☐ 14
- ☐ 15

THANK YOU FOR YOUR HELP BY COMPLETING THIS QUESTIONNAIRE!

